EI "ROYAL METROPOLITAN UNIVERSITY"
Department of Natural and Humanitarian Disciplines

SYLLABUS

Program:	General medicine
Qualification of the graduate:	General practitioner / Medical doctor
Year:	2025-2026
Semester:	2
Course duration:	18 weeks
Instructor/Assistant/Professor	Name: Tokoeva Burul
Department:	Humanities
Day and Time for consultation:	Tuesday at 11:30-13:30., room 211
Classroom:	211
e-mail:	*burul.tokoeva@gmail.com*
Course Title:	Information technology in medicine
Must/Elective:	
Credit/Hours:	2

Bishkek 2025

1. **Tokoeva Burul, e-mail: burul.tokoeva@gmail.com**

2. **Description of discipline:**

The discipline "Information technologies in medicine" is an introduction to the basics of information technologies with an emphasis on their application in the medical field. Studying this discipline will help future doctors when using software, when working with medical and technical equipment for the purpose of prevention, diagnostics, treatment and rehabilitation.

The purpose of studying the discipline "Information Technologies in Medicine" is to develop systemic knowledge of medical students about information technologies in medicine, as well as to develop skills in working with medical and technical equipment used in working with patients, and to apply the capabilities of modern information technologies to solve professional problems.

Objectives of the discipline:

-   to master minimal theoretical knowledge in the field of information technologies in medicine necessary for a future specialist;
-   to develop skills in working with a computer and software in the medical field, as well as to develop skills in working with information systems in medical practice and the Internet;
-   to understand the role of information technologies in improving the quality of medical care and the security of personal information of patients;
-   to master knowledge of information processing methods necessary when interacting with IT technologies in the modern world.

Competencies of students, formed as a result of mastering the discipline, planned results of mastering the academic discipline.

The place of discipline in the structure of the BEP (prerequisites, postrequisites) –

The discipline "Information Technologies in Medicine" is a mandatory discipline of the professional cycle of the curriculum in the direction 560001 General Medicine, refers to the basic part B.2.1, the mathematical and natural science cycle and contributes to the formation of the following competencies: IC-1, IC-2, PC-7. The knowledge gained is the basis for studying other specialized disciplines: medical biophysics, organization of public health work.

3. **Name and complexity of the discipline**

№	Name of discipline	course	semester	Week	Academic hours		Independent work	Total
					Lecture	Practice	IWS	
1	Information technology in medicine	1	2	18	18	18	24	60

4. **Thematic plan for modules (indicating weeks and hours, dates)**

2 semester

Course Plan	Lecture / Practice	*Topic*	Date	hours
1-2 weeks	Lecture/ Practice	**Topic 1.** *Fundamentals of information technology in medicine.*		2/2
3-4 weeks	Lecture/ Practice	**Topic 2.** *Electronic medical records and their role in modern medical practice.*		2/2
5-6 weeks	Lecture/ Practice	**Topic 3.** *Standards and protocols for the exchange of medical information.*		2/2
7-8 weeks	Lecture/ Practice	**Topic 4.** *Working with electronic medical records: creating, editing and analyzing data.*		2/2
9-10 weeks	Lecture/ Practice	**Topic 5.** *Implementation of telemedicine consultations and remote patient monitoring.*		2/2
Module 1 (Date)				
11-12 weeks	Lecture/ Practice	**Topic 6.** *Using databases to store medical information and analyze data*		2/2
13-14 weeks	Lecture/ Practice	**Topic 7.** *Creating an electronic medical record for a patient using specialized software*		2/2
15-16 weeks	Lecture/ Practice	**Topic 8.** *Analysis of the structure and content of electronic medical records from real clinical cases.*		2/2
17-18 week	Lecture/ Practice	**Topic 9.** *Studying standards for the exchange of medical information and developing protocols for data transfer between healthcare systems.*		2/2
Module 2 (Date)				

5. Schedule of consultations

Semester	Group	Week	Time	Room
2	GM-2-1,2,3-25	Tuesday	11.30-13.30	211

6. Schedule for receiving detentions

Semester	Group	Week	Time	Room
2	GM-2-1,2,3-25	Tuesday	08.00-11.30	211

7. List of basic and additional literature

1. New Perspectives on Microsoft Excel 2013. Course Technology. ITP, Cambridge, Boston, Washington.

2. New Perspectives on Microsoft Access 2013. Introductory. Course Technology. ITP, Cambridge, Boston, Washington.

3. Ralph M. Stare, George W. Reynolds. Principles of Information Systems. Course Technology. ITP, Cambridge, Boston, Washington.

4. Artemov A. "Monitoring information on the Internet". Digital book. Publisher: MOO Interregional public organization Academy of security and survival, 2014

5. Bondarev V. "Introduction to information security of automated systems", Bauman Moscow State Technical University, 2016

6. Babash A., Baranova E., Larin D. "Information security. History of information protection in Russia", Publishing house "KDU", 2015

7. Baranova E., Babash A. "Information security and information protection" 3rd ed., Publishing house "RIOR", 2016

8. Biryukov A. "Information security: defense and attack" 2nd ed., Publishing house "DMK", 2016

8. **Course policy and evaluation criteria:**

Type of control (current, milestone, final)	Control form	Assessment of learning outcomes
Current control	Oral surveey, written work	40 points
IWS+IWW	Perfoming assignments, work with literature	20 points
Milestone control (modul submission)	Testing, control tasks	40 points
Final control (differential test)	Conversation, examination (test.edu.kg)	100 points

Scale of correspondence between grades and scores on the final control (exam)	
Score	Grade
90-100	«excellent»
76-89	«good»
60-75	«satisfactory»
0-59	«unsatisfactory»

9. **Policy of the academic discipline (corporate culture code, student code of ethics):**
- Mandatory attendance.
- Active participation of the student in practical classes, preliminary preparation and homework.
- High-quality and timely completion of tasks for the SIW.
- Participation in all types of control (current, milestone, final).

Additional requirements:
a. one lateness to classes and / or leaving before their end for any reason is considered as one missed lesson that is not subject to recovery;

	Educational institution
	"Royal Metropolitan University"
	Quality management system
	Syllabus of the discipline
	«Information technology in medicine» of the «DNHD» EI "RMU"

b. unacceptable: the use of cell phones during classes, deceit and plagiarism, late delivery of assignments, non-compliance with subordination and rules of conduct.

Help: For advice on the implementation of independent work (SIW), their delivery and protection, as well as for additional information on the material covered and all other questions you may have about the course, please contact the teacher during the hours allotted for consultations.